



## **Improving Operational Efficiency and Supervision through MIS Implementation at AMIK Depati Parbo Kerinci**

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### **ABSTRACT**

**Purpose:** This study aims to evaluate the extent of the implementation of the Management Information System (MIS) at AMIK Depati Parbo Kerinci and the supervision conducted to address issues of operational efficiency, management effectiveness, and service quality for users (students, lecturers, and staff), which may hinder campus progress at internal and external levels. **Methodology:** The research employs a descriptive method with a qualitative approach based on a case study regarding the use of MIS in Academic, Financial, and Personnel activities at AMIK Depati Parbo Kerinci. **Results:** The implementation of MIS at the campus supports academic, financial, and personnel activities synergistically, although challenges in supervision and coordination require enhancement to ensure better integration. **Findings:** The study reveals that consistent supervision is key to optimizing the effectiveness and efficiency of MIS usage in higher education institutions. **Novelty:** This research provides new guidelines on the importance of supervision in the implementation of MIS in higher education. **Originality:** The study highlights the need for integrated supervision strategies to enhance MIS operational efficiency. **Conclusions:** Effective supervision can overcome barriers in MIS implementation, support operational efficiency, and improve user services at AMIK Depati Parbo Kerinci. **Type of Paper:** Empirical research paper.

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## **INTRODUCTION**

The world is currently in the process of preparing to enter the digital era, which is characterized by the increasingly widespread use of systems in all aspects of human life and work. This transition is a dynamic and gradual process. The world of education is no exception, as the use of digital technology is nearly ineluctable in all facets of the learning process, from elementary to college. One digital element that is increasingly popular and inherent in the field of education is the utilization of Management Information Systems (MIS). Educational institutions use management information systems as a source of data and information to streamline the execution of organizational tasks within the educational environment, thereby forming a coordinated organization (Wahyudi K. & Subando, 2012).

The implementation of management information systems in all educational institutions' operations and tasks is unquestionably indispensable in the pursuit of performance that is both efficient and effective. People consider Management Information Systems (MIS) to be immensely helpful in completing tasks related to processing educational data for students, educators, and education personnel. The general

*presence of MIS has been able to address the data management issues that have arisen in higher education, where the needs of managing student data, education personnel, and lecturers are enormous and complex. According to Tata Sutabri (2013), the initial concept of conventional management information systems is the systematic pursuit of various activities, including recording, archiving, communication between stakeholders, and the presentation of information as a foundation for decision-making.*

*The use of MIS in the world of education is a reflection of the absolute need and priority in educational institutions' efforts to achieve competency-based competitive advantage. In order to ensure the survival and development of educational institutions, it is crucial to implement a management information system concept that is both effective and appropriate (Helmawati, 2015). In the face of various needs as stated above AMIK Depati Parbo Kerinci considers it necessary to be able to position itself in this condition, as part of an institution that upholds agents of change, it is appropriate for the campus to make management information systems as part of the support for campus development.*

*However, AMIK Depati Parbo Kerinci still face challenges in utilizing the MIS, a complex system that encompasses both technical and non-technical aspects. The first challenge is the limited budget owned by the AMIK Depati Parbo Kerinci, with this limited budget making the campus strategise very carefully in the ownership of technology infrastructure.. This includes the availability of inadequate hardware, an unstable internet network, and difficulties in providing the latest software to support more effective data management.*

*The next challenge is how to ensure complex data integration, where AMIK Depati Parbo Kerinci usually have various different systems and data sources, such as academic, financial, human resources, and administrative data. Therefore, the campus must make efforts to integrate these diverse systems, ensuring their interconnection and enabling thorough data analysis. This is further influenced by the limitations of human resources managers, who have varying understandings of technology. Additionally, the security system and data privacy are highly sensitive and require protection. Therefore, it is crucial to ensure that MIS has a robust security protocol to prevent data leaks or cyber attacks.*

*Universities must quickly adapt to every new trend in the ever-evolving technological conditions of MIS, including big data, artificial intelligence, and predictive analytics. Of course, this requires adequate change planning and a budget to carry out regular system updates. The cost of implementing and maintaining MIS in universities can, of course, be very high, especially if the system requires customization or additional services. This cost component also includes user training, infrastructure maintenance, and software licensing.*

*Overcoming these challenges requires commitment and strategic planning from management of AMIK Depati Parbo Kerinci, as well as collaboration between related units to make maximum use of MIS. This is based on the fact that in an academic environment, there is still the possibility of resistance or rejection from some staff or lecturers towards the use of the new system due to old habits or discomfort with technology. Of course, this needs to be managed carefully by prioritizing good communication and of course proper socialization.*

## METHOD

### Metode Analisis

This study employed a descriptive research method with a qualitative approach, utilizing a literacy study design to gather primary research data on the use of the Management Information System (MIS) at the AMIK Depati Parbo Kerinci campus. in addition to supporting data obtained through interviews with users of Management Information Systems (SIM) on the AMIK Depati Parbo Kerinci campus, both students, lecturers, and educators who have been utilising the existence of SIM according to their needs.

We not only gathered fundamental information, but also scrutinized various sources of publication data and related institutions' accomplishments to bolster our conclusions. This allowed us to

formulate a recommendation for the sustainability and advancement of the Management Information System at AMIK Depati Parbo Kerinci.

The research was carried out for thirty days with the initial stages of determining data sources, processing data, summarising data and drawing conclusions. This research was carried out taking location on the AMIK Depati Parbo Kerinci.

## RESULTS AND DISCUSSION

### RESULTS

#### **1. Understanding Management Information Systems (MIS)**

Management Information System (MIS) is a combination of information technology and management designed to collect, store, process, and analyze data in an organization to support decision-making, planning, monitoring, and control. MIS helps manage relevant information to improve organizational performance and facilitate communication and coordination among departments. Furthermore, Davis (2010) defines the management information system as a system that integrates humans and machines to present data and information, supporting both operations and management tasks, enabling decision-making within an organization.

MIS typically includes a variety of components, including hardware, software, databases, procedures, and users. These components work together to deliver information to managers and other stakeholders, enabling them to conduct data analysis and make more accurate and timely decisions. In general, the management information system is a comprehensive integrated unit that consists of hardware, software, brainware, procedures, databases, and communication technology. The primary function of the system is to manage data from various sources, subsequently presenting and informing the relevant management sections and levels for policy-making (Susanto, 2002).

In AMIK Depati Parbo Kerinci, Management Information Systems (MIS) are implemented in numerous organizations, including financial reporting systems, human resource management, supply chain management, and decision support systems. More of implementation of Management Information System is :

- pmb-amikdp
- siakad-amikdp
- jurnal-amikdp
- perpustakaan-amikdp

#### **2. Main Components of Management Information Systems (MIS) for Higher Education**

As an important part of institutional management, in general there are several components of the Management Information System (MIS) in AMIK Depati Parbo Kerinci that have been used and utilized well, namely:

##### **1) Academic System (siakad-amikdp)**

- To manage information related to curriculum, class schedules, attendance, grades, and other academic processes.
- To ease lecturers and students to access lecture information.
- To provide features for class registration, academic achievement tracking, and exam schedule management.

##### **2) Administration and Personnel System (siakad-amikdp)**

- To manage staff and lecturer data, from recruitment, performance appraisal, to personnel data management.
- To facilitates attendance and payroll management.
- To simplify campus administration processes related to human resources.
- 3) Financial System (simkeu-amikdp)
  - To cover budget management, campus finances, expenses, and income.
  - To manage the tuition fee payment process and support the management of scholarship funds.
  - To facilitate transparent financial reporting for audit purposes.
- 4) Student Service System (siakad-amikdp)
  - To provide services for student activities, such as facility loans, counseling, and health services.
  - To provide students with access to view academic history, schedules, and exam results.
  - To facilitate communication between the campus and students.
- 5) Quality Assurance and Accreditation System (amikdp.ac.id)
  - To support the education quality evaluation process for accreditation and audit purposes.
  - To provide features for collection and analysis of relevant data for quality improvement.
- 6) Digital Library System (perpustakaan-amikdp)
  - To manage digital and physical collections, including books, journals, and other reference materials.
  - To provide online lending and literature search services.
  - To ease students and lecturers to access the references needed for learning.
- 7) Research and Publication System (jurnal-amikdp)
  - To manage research data, projects, and publications of lecturers and students.
  - To facilitate registration of copyright, research achievements, and grant applications.

### 3. Supervision

According to Liang Gie (2000), supervision refers to the comprehensive process of monitoring, checking, matching, and controlling all activities to ensure they align with the established plan and achieve the desired results. Supervision in English is control, where Knoontz & O'Donnell state that "the control function includes those activities which are designed to compel events to conform to plans," which can be translated as the control function includes activities intended for events to occur according to plans (The Liang Gie, 2000).

To ensure that certain activities, projects, or actions are operating in accordance with established standards, rules, or plans, supervision is a process of observation and monitoring. Detecting and correcting deviations or errors is another function of supervision, ensuring the effective and efficient achievement of goals. For management, supervision is often part of the management cycle, which includes planning, organizing, implementing, and evaluating. The goal is to ensure quality, compliance, and support continuous improvement.

To ensure the implementation of the Management Information Systems (SIM) at AMIK Depati Parbo Kerinci, a sustainable supervision process is carried out by campus leaders, in this case the Director and the person in charge of SIM development and use as a Deputy Director II.

On application, the use of SIM at AMIK Depati Parbo Kerinci is certainly not free from the challenges faced. The challenges that occur include the accessibility of the use of the system itself, because as a normal system, it sometimes experiences problems with its software considering that it continues to be under development, besides that limited capacity and network are also the next challenge. As for the users, there is almost no problem, considering that most of them are technology-savvy.

Every challenge will certainly be faced with the right solution management, this is done in order to keep the system running because it provides benefits for the AMIK Depati Parbo campus in its acceleration to become a competent and superior university.

## DISCUSSION

### **1. Implementation of Management Information Systems (MIS) at AMIK Depati Parbo Kerinci**

The implementation of Management Information System (MIS) in higher education is very important to improve operational efficiency, management effectiveness, and quality of service to students and staff. So far AMIK Depati Parbo Kerinci has also used the Management Information System application for several needs to support campus acceleration both internally and externally.

The most basic use of SIM is, of course, in academic activities, where the important need is how to record activities starting from the process of accepting and recording student data, determining lectures, guardianship, scheduling lectures, student and lecturer attendance, lecture activity reports, attendance recapitulation, and accumulation of grades to the presentation of data and information.

To support academic activities, AMIK Depati Parbo Kerinci also incorporates the Management Information System function for financial management and personnel management. The use of these two activities is certainly expected to be able to support the use of SIM in academic elements, where both are synergistically inseparable parts and all support each other.

In implementing SIM at AMIK Depati Parbo Kerinci, campus management took important steps during preparation until the development of the system itself, namely:

#### **a. Determining System Requirements**

The initial step taken is to understand the needs of the campus itself; mapping is carried out starting from the needs of academic administration, finance, and personnel to the needs of students and lecturers; this also includes a student data management system, attendance, grades, schedules, finance, library, and services.

#### **b. System Development or Selection**

Once the needs are identified, the dictionary selects the concept of developing an information system internally by forming a dedicated team. The system that is developed is set so that it has an easy-to-understand interface and can be integrated with other systems, especially with related systems at the central Ministry of Education, Culture, Research, and Technology and the regional Higher Education Service Institution (LLDIKTI) as a mentor.

#### **c. System Testing**

The campus felt it was crucial to ensure the system was operating smoothly and free from bugs or technical issues before fully implementing it. Then, the campus carried out the system's testing in stages, beginning with trials with several specific departments before implementing it fully across the campus.

#### **d. Training and Socialization of System Use**

In order for the system to be utilized optimally, training and socialization for the main users, namely operators, lecturers, administrative staff, and, of course, students, are carried out with simple methods. Operators and administrative staff receive more emphasis in the training, while lecturers and student users receive socialization regarding system implementation. This ensures that all users understand how to access and use the system according to their needs and functions.

#### **e. Implementation and Management**

The system can fully implement itself after the testing process, training, and user socialization. In order for the system to run well, the campus emphasizes sustainable management that includes routine maintenance, repairs, and system updates if necessary. So to ensure that this system can continue to provide benefits, the campus has formed a technical team that specifically handles technical support and further development.

## **2. Benefits of Management Information Systems for Higher Education**

In general, the implementation of the Management Information System for the management needs of the AMIK Depati Parbo Kerinci campus has helped to support lecture activities and encourage the development of campus capacity, both for internal and external parties. The presence of the Management Information System specifically provides the following impacts and benefits:

### **- Operational efficiency**

The use of Management Information Systems (MIS) has reduced manual work by automating administrative processes. This undoubtedly enhances work efficiency, as it allows for the summarization and execution of various procedures and stages from any location, without relying on campus-based administrative services.

### **- Better decision making**

Management Information System is able to provide factual and complete data and reports in real-time so that it can support strategic decisions, including when the decision-making process is needed immediately. Data availability can also be done quickly when dealing with external parties in an effort to increase the capacity and competitiveness of campuses at various levels.

### **- Transparency**

With the Management Information System, related parties from both internal and external can play an active role in tracking financial activities and administrative stages more easily.

### **- Affordability of services**

Another benefit of implementing a Management Information System in higher education institutions is that it facilitates access to campus services for the entire academic community.

To optimize the benefits of using and implementing a good Management Information System, it is crucial to have support from the campus itself, ensure adequate infrastructure readiness, and foster maximum understanding among users, who stand to benefit the most from its use.

The results of user satisfaction, showing the results of using SIM at AMIK Depati Parbo are able to encourage the value of satisfaction with services from the campus to facilitate acceleration. The following data can be used as a basis for the results of user satisfaction achievements.

## **3. Supervision of Management Information Systems at AMIK Depati Parbo Kerinci**

In an effort to maintain the sustainability of the use of the Management Information System on the AMIK Depati Parbo Kerinci campus, campus management must of course prepare concrete supervisory steps in an effort to maintain, develop and increase the capacity of the use of the Management Information System so that it can continue to provide benefits to the entire academic community. The supervisory steps that must be taken are:

### **a. Routine Audit**

System audits must be conducted periodically to ensure that the MIS continues to function in accordance with predetermined operational standards. Audits can involve aspects of evaluating data security, system performance, and operational efficiency.

### **b. Security and Privacy Monitoring**

The system built must comply with data security and privacy standards to protect user information, be it students, staff, and lecturers, this supervision includes monitoring user access, implementing data encryption, and personal data protection policies.

### **c. User Satisfaction Evaluation**

Monitoring can also be done through regular user satisfaction surveys, because by listening to feedback from students, lecturers, and staff, the campus can understand whether the system is helpful or there are obstacles that need to be fixed.

#### **d. Periodic Reporting and Updates**

The campus needs to carry out regular updates to the system according to developments in needs and technology. This supervision includes monitoring technological developments and campus needs which of course change over time following the dynamics that occur.

#### **e. Internal and External Supervisory Team**

In addition to having an internal team tasked with monitoring the implementation and performance of the system, in certain conditions an external audit needs to be carried out to ensure transparency and ensure the achievement of higher standards. This monitoring team can collaborate with the IT department and related parties.

With effective implementation and supervision, the use of Management Information System in AMIK Depati Parbo Kerinci can be a powerful tool to support academic activities, improve operational efficiency, and provide better services for the entire academic community. In addition, it indirectly gives a positive impression to the community regarding the capacity and excellence of AMIK Depati Parbo Kerinci campus management, so that it is able to compete in facing the demands of the times.

### **CONCLUSION**

The implementation of a Management Information System (MIS) in higher education is very important in efforts to improve operational efficiency, management effectiveness, and quality of service to users, be they students, lecturers, or education staff, or when dealing with external parties. For this reason, AMIK Depati Parbo Kerinci has utilized the Management Information System application to support campus acceleration, both internally and externally.

The most basic application of MIS is undoubtedly in academic activities, as the AMIK Depati Parbo Kerinci campus primarily focuses on lecture activities. The AMIK Depati Parbo Kerinci campus also integrates the Management Information System function for financial management and personnel management to support academic activities. The use of these two activities is certainly expected to be able to support the use of MIS in academic elements, where both are synergistically inseparable parts and all support each other.

Maximizing the benefits of using and implementing a good Management Information System requires support from the campus itself, adequate infrastructure readiness, and maximum understanding from users, who stand to benefit the most from its use. Therefore, to ensure the sustainability of the Management Information System's use on the AMIK Depati Parbo Kerinci campus, campus managers must prepare concrete supervisory steps to maintain, develop, and increase the system's capacity, thereby ensuring its continued benefits to the entire academic community.

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